

**Book Review**

# **Review of Jonathan Kahn, *Race in a Bottle: The Story of BiDil and Racialized Medicine in the Post-Genomic Age*<sup>1</sup>**

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In 2005 the Food and Drug Administration (FDA) approved the drug BiDil, a combination of two generic vasodilators (hence *bi-dil*), with specific indication to treat heart failure in black patients. The drug was approved largely on the basis of results from a small clinical trial of only self-identified black patients.

Obviously, however, if a drug works with a particular population, that gives no indication that drug will work only with that population or have unique benefits solely for that population: The drug might work for anyone, of any population, and so works well for a subpopulation. So there is some mystery why BiDil was approved, with this specific indication, on this basis. In *Race in a Bottle: The Story of BiDil and Racialized Medicine in the Post-Genomic Age*, law professor and historian Jonathan Kahn investigates this mystery.

BiDil's developers argued that there must be some latent genetic explanation for the drug's success with black patients—this argument underlies their claim that BiDil uniquely benefits black people. They suggest that race serves as useful surrogate or proxy until further genetic information is revealed.

A major goal of the book is to rebut this explanation. Kahn argues that, according to the best science (and philosophical theorizing about the nature of races), there is no genetic basis for race: There are no unique genes that classify (those who many see as) white people as white and (those who many see as) black people as black, and so on. Race-specific efficacy in drugs is therefore unlikely and dubious, given the lack of race-specific biological mechanisms needed for these drugs to perform as promised.

What role should race play in medicine and public health, then? While Kahn provides positive proposals here, another of his major goals is to argue that race-specific drugs have the (typically unintended) negative consequence of undermining potentially effective projects to

address racial health disparities. If we believe that health inequalities are, at root, an unfortunate consequence of genetics and biology—and not a consequence of unfair social, political, and educational opportunities, environmental quality, inequalities in health care access, racism in health care, and other social causes—then there is little reason to focus on these very challenging and demanding issues of justice and the distribution of health-related social, educational, and vocational goods: Just take a pill! But if the pills don't work, and they lead us to ignore or downplay strategies that will work, then the drugs wrongfully distract—to the detriment of those the drugs were developed to benefit.

In what follows, I briefly summarize the book's introduction, eight chapters, and very helpful "Conclusions and Recommendations," and comment on some of the main issues of each chapter.

In the introduction, Kahn briefly reviews scientific evidence that race is not genetic, noting, "There is no genetic basis for marking off where one race ends and another begins" (3). To be of a particular race is not to have any particular biological-kind-creating genes or biological makeup, and so, Kahn argues, any race-specific drug (that works even better with particular races) is unlikely, as are race-specific medical conditions. For example, sickle cell anemia isn't, as many people think, a "black" disease, but results from a trait common to many descendants from areas with high malaria rates, irrespective of race (13). And while African-Americans as a group have high rates of hypertension, Africans in Nigeria have very low rates of hypertension (13). Kahn later reports that the drug warfarin is better dosed directly on the basis of an individual patient's own genes, rather than indirectly on the basis of the patient's racial group. Thus, Kahn gives theoretical and empirical reasons to reject race as a biological category, along with any practices that depend on this false biological assumption. (For further discussion of the

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failure of biological or genetic theories of race, see Atkin's [2012] *The Philosophy of Race*.)

Kahn presents race as "a complex and dynamic social construct" (2). A concern throughout the book is legitimate and illegitimate uses of racial concepts, on medical, scientific, legal, social, and moral grounds.

Given the dubious connections between race and genetics, why do scientists and health professionals continue to write and research as if race is a biological reality? In Chapter 1, "Organizing Race," Kahn reports that there are many federal and other regulatory requirements to report on and categorize research data by race. Researchers must meet these requirements, but often they do this in ways that are not very careful or precise: Kahn offers revealing quotes from researchers expressing puzzlement about what races are and candid admissions that they do not really understand what races are (44–45). Nevertheless, regulatory requirements and incentives force "the introduction of race into contemporary biomedicine" (47). If this concept is misunderstood and misused, the potential for harm is great.

Chapter 2 describes the "birth" of BiDil in the 1980s. In 1999 the drug company NitroMed bought the BiDil patent, which was set to expire in 2007. The drug, a combination of two generic drugs, had been used for more than a decade to treat heart failure in patients irrespective of race. NitroMed sought a race-specific patent to remarket the same drug, but with a new specific indication for black patients. The FDA granted the patent in 2005, and this second patent lasts until 2020. Kahn argues that commercial, that is, financial, interests led the way for seeking this patent protection, not any strong medical or scientific evidence that BiDil was uniquely helpful for black patients; indeed, he has testified to this effect before the FDA (94–95). The extensive details of Kahn's case for why, ultimately, there was no good scientific evidence to support a race-specific indication for a generally useful drug are worth reviewing.

Chapter 3, "Statistical Mischief and Racial Frames of Drug Development and Marketing," argues that a common statistic, that "death rates from heart failure are more than twice as high in black patients than in white patients" (71) is false—very false, since the correct statistic is under 1.1 to 1 (72). Nevertheless, this false statistic took on a life of its own and provided the context for a perceived "need" for a drug like BiDil. Yet such statistics do not support the dubious theory that there is a biological or genetic explanation for the racial health disparity: The causes may be social, environmental, and/or related to health care access and many other potential causes.

In Chapter 4, "Capitalizing [on] Race in Drug Development," Kahn argues that "BiDil was not about personalizing medicine; it was about exploiting race to obtain cheaper, quicker FDA approval for a drug" (88). He discusses some of the promises and pitfalls of

pharmacogenomics, and dangers in using race as a proxy or surrogate for individual genetic markers relevant to a medical condition. Most interestingly, this chapter reports that, despite all the initial excitement about BiDil, the drug ultimately was a financial failure: It was not widely prescribed for a variety of reasons, including many physicians' skepticism about race-specific therapies, and a sense that the two generic, inexpensive vasodilators worked just as well (a view that NitroMed tried to rebut).

Chapter 5, "Race-ing Patents/Patenting Race," explores race-focused drug patents. Kahn argues that this phenomenon, too, reinforces the false understanding of race in terms of genetics and opens the door to racial and genetic discrimination of various kinds.

Chapter 6, "Not Fade Away," explores the common insistence that at present race is the best surrogate we have for genetics, but that racial identification for medical purposes will eventually "fade away" when we have better genetic information. Kahn observes that there are unfortunate incentives and motivations to keep racial categories in drug development, even when they should be eliminated.

In Chapter 7, "From Disparity to Difference," Kahn argues that "geneticizing health disparities . . . has powerful implications . . . for how we address the historical legacies of racial injustice in this country" (223). Seeing health disparities as primarily genetic undercuts the need to address social, educational, and political inequalities on racial lines; addressing disparities becomes more of a private, individual matter, and less a matter of social justice. Kahn observes that this message supports (and is supported by) some financial and political agendas, but does not help those who suffer due to health inequalities.

Finally, in a "Conclusion and Recommendations" section, Kahn urges for far greater rigor, precision, and care in using race designations in research and law, especially concerning whether "race" is meant as a social group or a biological designation.

In conclusion, Kahn's book very is important and well worth studying, as it addresses profound issues of racial justice concerning health care and health-related research (and health and well-being in general). The book was developed out of 20 or so of Kahn's academic writings on the topics, mostly in medical and law journals; the most "popular" source was an article by him in *Scientific American*. Given the importance of these issues and their need to be widely understood and discussed, even by those without medical and legal backgrounds, I urge Kahn to develop a more "popular" and accessible account of BiDil and his arguments concerning social justice and race, medicine, and health care. Doing so would surely contribute to the justice and equality that we seek. ■

## REFERENCE

Atkin, A. 2012. *The philosophy of race*. Durham, UK: Acumen.